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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/588,128	06/02/2000	James E. Hebert	5181-58500	8223

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EXAMINER

LOHN, JOSHUA A

ART UNIT

PAPER NUMBER

2184

DATE MAILED: 02/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/588,128

Applicant(s)

HEBERT, JAMES E.

Examiner

Joshua A Lohn

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,11,18-20,23,24,27-30,33,34 and 37-39 is/are rejected.
- 7) ☒ Claim(s) 3,6-10,12-17,21,22,25,26,31,32,35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 11, 18-20, 23, 24, 27-30, 33, 34, and 37-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Availability Features in the Sun™ X500 Server Family” in view of Mahalingam.

As per claim 1, “Availability Features...” teaches of an alternate pathing system. This system contains at least a two-node computer network. Figure 3-1 shows the server as one node and any general Ethernet connection is the second node. The system provides for a primary network interface path to connect the two nodes, as well as a secondary network interface path that can be made to take over in the event of a primary network interface failure, see page 20. “Availability Features...” does not teach of a mechanism within the Application layer of the computer network for monitoring the first path to detect this failure, and then performing the failover to the second network path.

Mahalingam teaches of a server system, connected to a network, which utilizes multiple network interface cards to allow for multiple access paths, with one network interface card acting as the primary interface, see column 2, lines 23-34. He teaches of a mechanism, MULTISPAN, which is an application used for monitoring network paths, detecting failures of the paths, and performing failover of paths. MULTISPAN is a process, which acts as a high availability

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networking mechanism and operates within the system, see column 3, line 50. All paths to the network are monitored using the probe packet heartbeats, see column 8, line 55 through column 9, line 39. The MULTISPAN process will detect any failures during this monitoring and determine if the failure occurs to the primary network path. If the primary path fails, MULTISPAN does a switch-over to cause the secondary path to become the primary, completing a failover operation.

It would have been obvious at the time the invention was made to institute the MULTISPAN process of Mahalingam into the multimode system presented in “Availability Features...”

This would have been obvious because both inventors are striving for a highly available network systems. “Availability Features...” teaches of a multinode system in which alternate pathing promotes system availability, see page 20. It also stresses that in such environments system availability is critical, see page 1. “Availability Features...” also teaches that a manual switchover is useful to promote continued operation when using redundant pathing in a network. Mahalingam also teaches that systems and methods must be devised to protect users from hardware failures, and that redundant network interfaces are such a method, see column 2, lines 5-21. Mahalingam teaches the MULTISPAN process to promote the switchover of network interfaces, and the paths they access, in the event of failure, see column 9, lines 20-39. This process is merely an automation of the switch-over suggested in “Availability Features...”. The automation of user processes was a well known concept in the art at the time the invention was made and it would have been obvious to automate the reliability enhancements suggested in “Availability Features...” with the MULTISPAN process taught by Mahalingam.

As per claim 2, the MULTISPAN process discussed above is a computer software product, see column 3, line 65 thorough column 4, line 5.

As per claim 4, the first node is taught to be a server, and the second node of the network could be any Ethernet type device, see figure 3-1 of "Availability Features...". The second node is taught to be a server. Official Notice is taken that both the concept and the advantages of having an Ethernet type device be a server is well known in the art. It would have been obvious for the second node to be a server.

As per claim 5, Mahalingam teaches of a probe packet used to monitor the network interfaces that has a heartbeat structure, see column 8, lines 55-65.

As per claim 11, Mahalingam teaches of failover including disabling the primary network adaptor, and its first network path, and enabling the second network adaptor to use its path as the network path, see column 9, lines 20-40.

As per claim 18, it is shown in the discussion of claim 4 that it is obvious for the second node to be a server. If the second node is the same type of server as that in the first node, it will contain a high availability mechanism that operates identically to that in the first node as described above. This would satisfy the limitations of claim 18.

As per claim 19, it is an apparatus of one node of the two node system shown in claim 1, and is shown in the first node of the discussions of claim 1.

As per claim 20, it contains the same limitations as claim 5 and is rejected under the same discussion.

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As per claim 23, it contains the same limitations as claim 11 and is rejected under the same discussion.

As per claim 24, Mahalingam teaches of, following a monitoring operation, shutting down a primary network interface to disable it. Then configuring a secondary network interface with the same address information that was used by the primary network interface. The secondary network interface is then reset to enable it, and periodic monitoring continues as before, see column 9, lines 20-55.

As per claim 27, "Availability Features..." teaches of the network cards being used to access an Ethernet network, see page 20. He doesn't teach that the adaptors are Ethernet adapters. Official Notice is taken that both the concept and the advantages of using an Ethernet adaptor to access an Ethernet network is well known in the art. It would have been obvious to use an Ethernet adaptor for connecting to an Ethernet network.

As per claim 28, "Availability Features..." teaches of the network cards being used to access an Ethernet network, see page 20. He doesn't teach that the adaptors are Gigabit Ethernet adapters. Official Notice is taken that both the concept and the advantages of using a Gigabit Ethernet adaptor to access an Ethernet network is well known in the art. It would have been obvious to use an Ethernet adaptor for connecting to an Ethernet network.

As per claim 29, it is an apparatus of the methods of claim 1 and the discussion used in the rejection of claim 1 applies to the limitations of claim 29 as well.

As per claim 30, it is an apparatus of the methods of claim 5 and the discussion used in the rejection of claim 5 applies to the limitations of claim 30 as well.

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As per claim 33, it is an apparatus of the methods of claim 11 and the discussion used in the rejection of claim 11 applies to the limitations of claim 33 as well.

As per claim 30, it is an apparatus of the methods of claim 5 and the discussion used in the rejection of claim 5 applies to the limitations of claim 30 as well.

As per claim 34, it is a two-node implementation of the one-node apparatus in claim 24. Since the paths are both referenced with respect to the first node, the failover with respect to the paths would function the same in both the one-node and two-node embodiments. Thus claim 34 is rejected on the same grounds as claim 24.

As per claim 37, the limitations of this claim are the same as those of claim 27, and are rejected under the same grounds.

As per claim 38, the limitations of this claim are the same as those of claim 28, and are rejected under the same grounds.

As per claim 39, the second mechanism is the same as that put forth in claim 18, and is rejected under the same grounds.

Allowable Subject Matter

Claims 3, 6-10, 12-17, 21, 22, 25, 26, 31, 32, 35, and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is listed on form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua A Lohn whose telephone number is (703) 305-3188. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoleil can be reached on (703) 305-9713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JAL
February 21, 2003


SCOTT BADERMAN
PRIMARY EXAMINER